ABSTRACT

The present invention provides

a lubricant for water-based metal working oil containing polyether (E) represented by the following general formula (1) and having an HLB of 6.1 to 16.0 and a weight-average molecular weight of 500 to 10,000

$$R^1[\{(OCH_2CH_2CH_2CH_2)_m/(OA^1)_n\}(OA^2)_p\text{-}OH]_q \qquad (1)$$

[in the formula, R^1 denotes a residue such that at least one hydroxyl group is removed from a compound with a carbon number of 1 to 24 having 1 to 6 hydroxyl group(s); A^1 denotes an alkylene group with a carbon number of 2 to 4 except a 1,4-butylene group; A^2 denotes an alkylene group with a carbon number of 2 to 4; m denotes an integer of 1 or more having an average of 1 to 120; n and p each denotes an integer of 0, 1 or more such that an average of (n+p) is 1 to 200, and n and p are not simultaneously 0; q denotes an integer of 1 to 6; and $\{(OCH_2CH_2CH_2CH_2)_m/(OA^1)_n\}$ in a case where n is an integer of 1 or more denotes a random bond],

and water-based metal working oil containing said lubricant.

They are superior in lubricity to steel materials as well as, particularly, lubricity to soft metal such as aluminum, and excellent because of stability on dilution with water and non-separation property.